

The Medical Times and Register.

VOL XXXVIII No. 8.

PHILADELPHIA AND BOSTON, AUGUST, 1860.

WHOLE NO. 996

FRANK S. PARSONS, M. D., - Editor.
DORCHESTER, BOSTON, MASS.

JOSEPH R. CLAUSEN, A. M., M. D., Manager.
1400 ARCH STREET, PHILADELPHIA, PA.

.....EDITORIAL STAFF.....

T. H. MANLEY, M. D., New York, N. Y.

J. A. TENNEY, M. D., Boston, Mass.

J. J. MORRISSEY, A. M., M. D., New York, N. Y.

EDWARD A. TRACY, M. D., Boston, Mass.

LOUIS FISCHER, M. D., New York, N. Y.

H. B. SHEFFIELD, M. D., New York, N. Y.

LEOPOLD F. W. HAAS, M. D., New York, N. Y.



***** ORIGINAL *****

THE METHOD OF USING LÆVULOSE IN THE TREATMENT OF DIABETES.

CLINICAL RESEARCHES BY PROF. ANDREA FERRANNINI. *

I.

Some diabetics do not form less carbohydrates than are fit to be assimilated and used by the organism in place of the glucose which is eliminated by the urine. Without these substances, which supplant glucose in its high biological office, it manifests itself by a general poisoning of the afflicted person's frame, which is then either sustained by the excessive decomposition of the albuminous parts of the tissues or by other irregularities due to fresh changes not yet apparent.

This clinical precept has for some time urged notable observers to investigate carbohydrates, which would respond to this need, and it is with pleasure that I am able to say that, even at the present day, among the various substances which

have been tried advantageously, the first place is due to Lævulose, or fruit sugar, which was proposed and the applications of which have been studied by E. Kulz, of Marburg, and especially by my master, Prof. De Renzi, who has made an uninterrupted and continued series of researches in the medical clinics of Genoa and Naples. Thus, von Voit † recently injected large quantities of Lævulose into healthy and diabetic individuals without provoking a true lævulosuria. Strauss ‡ injected fully 100 grms. of Lævulose into a diabetic subject who had no glucosuria, and twenty-four hours after its adminis-

† Von Voit, "Untersuchungen über das Verhalten verschiedener Zuckerkarten, etc., " *Archiv für Klinische Medicin*, Bd. Iviii., 1897.

‡ Strauss, "Ueber den Einfluss der verschiedenen Zuckerarten, etc., " *Berliner Klinische Wochenschrift*, 1893.

* *il Pollicinico*, vol. iv., Nov., 1899.

tration hardly a trace of it reappeared in the urine. On this account, these two last investigators, have also, when studying, the use of the administration of Lævulose for diabetes, founded their judgment upon the elimination, or not, of that excess of sugar in the urine. Von Yaksch, of Prague, has come to the same conclusion in regard to the research of the assimilation of pentosi and diabetes, to which he accordingly referred in the past year at the Sixteenth German Medical Congress, held at Wiesbaden, and at the Seventieth Congress of German Naturalists and Doctors, held at Dusseldorf. However, nothing excludes that a hydrate of carbon is not eliminated by the urine, but it is then not used in the material change—at least, for the present moment. On the contrary, many observers maintain that when Lævulose does not pass into the urine, it is retained by the liver, and fixed there like glycogen, not being able to act as a product of decomposition of carbohydrate until it leaves that organ. This opinion was pronounced by Richter* a few months ago.

Therefore it is not so interesting to the clinic to know whether or not Lævulose is eliminated by the urine of diabetic subjects, as to discern whether this sugar on entering the cycle of the fresh change of a diabetic subject effectively acts there as a decompound of carbohydrates, and as such succeeds in preventing the danger of auto-intoxication. For such reasons, as well as for the one of auto-intoxication—of the causes, although not the only one, is constituted by the excessive decomposition of the nitrogenous substances, which is so great as to cause them to rob the tissues of their albuminous parts—I have established the

* Richter, "Diarettia und Glykosurie," *Zeitschrift fur Klinische Medicin*, Bd. xxxv., 1891.

† A. Ferrannini, "Se nei diabetici esista un eccesso protopatico o autonomo nella decomposizione delle sostanze azotate, Ricerche cliniche," *La Riforma Medica*, Nos. 193, 194, August 1890.

capacity of Lævulose for hindering the decomposition of the nitrogenous substances, as a proof of its assimilative powers and of its use.

The initial clinical researches were carried out in the Medical Clinic of Naples, under the direction of Prof. De Renzi, and published in 1896, † the results being observed in a healthy man. These results prove that in a healthy man the equipoise of the change of nitrogen, combined with a mixed diet, which furnishes 2,165 calories in twenty-four hours, one part of the carbohydrates and fatty substances, corresponding to 336 calories, may be substituted in the diet by a quantity of Lævulose, corresponding to the identical number of calories, without which the equipoise of the change of nitrogen is either disturbed or simply causes a trifling retention of nitrogen.

The power to spare the azotic substances in healthy men possessed by Lævulose has also been confirmed by the experiments made on animals by our colleague, Prof. Reala, which have been published in the same Medical Clinic, to which he himself referred at the Seventh Medical Congress held at Rome in October, 1896. Enough having now been said upon our first point, its effect on healthy individuals, we now pass to investigations made on those suffering from diabetes.

II.

In 1897 I chanced to meet with a severe case of diabetes in the Medical Clinic of Palermo, directed by Prof. Rummo. The patient was a certain Romano Castensio, aged thirty, of Serardo Friordi (Sicily), sulphur worker. The danger in his case was not represented so much by the percentage of sugar contained in the total amount of urine passed in the twenty-four hours (70 to 100 grms. per day, with a mixed diet) as by the direct heredity and similarity of

the disease (his mother having died of diabetes mellitus), by the general mal-nutrition, by the asthenia and by the precocity of these two symptoms (which dated from the first manifestation of the polyuria, of the polydipsia and of the glycosuria in 1896), and by their persistence during the whole duration of the malady, from its first apparent beginning in the middle of November, 1896, until he entered the clinic in the beginning of April, 1897, notwithstanding that polyphagia supervened towards the middle of January. On April 10th, 1897, when I first saw the patient, the general emaciation was very pronounced, the weight of the body being 39 400 kg. (the man was sufficiently short of stature for this); the colouring of the skin and of the preceptible mucous was pale; the blood showed hyperglobulina without oligochromemia (red blood corpuscles 3,300,000; leucocytes, 4,000: the normal percentage of white polynuclear cells, some small and large lymphocytes; absence of the eosinophile and basophile cells); the dynameter marked 35 on the right side and 34 on the left; the pulsations were sufficiently rare (forty to the minute), with a moderate tension; the knee jerk, etc., were normal.

During the observations of the following days another fact was very obvious. This patient eliminated with the urine 30 to 40 grms. of sugar per day, even when put on an exclusively albuminous and fatty diet for several successive days. The importance of this fact induced me to procure some of it with the greatest scruple, as it might prove a starting point for ulterior and important researches. For this purpose I associated myself with Dr. Domenico Mirto, then a resident of the clinic, and after having placed the patient in an isolated apartment, we nursed him alternately and uninterruptedly for one month, weighing and administering all food ourselves. It is needless to say that

the patient, hoping to be cured by the treatment, and then to be able to resume his work, submitted to the strictly albuminous adipose diet with a good grace. This spontaneous faith and the good will of the patient, which allowed us to research the material change, is the greatest guarantee for the authenticity of the results. For the surveillance may be instituted with ever such military strictness and regularity, yet if the patient wishes to disobey orders, transgressions are always possible. Although I have the habit of rejecting the patients unfit for rigorous research on the material change, still I do not succeed in persuading them to lend themselves with a good grace.

In the isolated department we administered to the patient for twenty-two consecutive days a diet consisting of beef-tea, veal, and fish, altogether amounting to 1,100 grms., and seven eggs. In spite of this, on the twenty-second day, the urine of the twenty-four hours contained 24.2 per cent. grms. of sugar.

In order to obtain the disappearance of this sugar, we had to starve the patient to a certain degree, giving him each day two cups of beef tea, 300 grms. of meat, and seven eggs, and on the fifth day after he had begun to use this diet, the sugar had absolutely disappeared from the urine. We had to treat a patient in whom not only the glucose produced from the carbohydrates, but also the sugar (for preference, pentosi, according to the recent researches of Blumenthal *) produced by the change of the albuminous and fatty substances was used, in a different manner, it being an exceptional case, in which the administration of the one as well as of the

* Blumenthal, "Sugli idrati di carbonio dei composti albuminosi dell'organismo animale," *Zeitschrift fur Klinische Medicin*, Bd. 34, H. 1. & 2, 1896.

other was reduced to a minimum. If, therefore, in this patient, in whom the power of using the sugary substances was so low, I noticed that Lævulose succeeded in sparing the consumption of the nitrogenous substances it would have been a true *argumentum crucis* on the use of that saccharine food.

In this need, I made use of Lævulose, chemically pure, and exempt from dextrose, provided by the firm of Scheing, of Berlin. The amount of nitrogen contained in the urine and in the faeces was proportioned by the acknowledged method of Kjeldahl Wilfarth. To proportion the sugar, I made use of the alcoholic fermentation and of the polarimetric test. As is customary, in similar researches, the amount of nitrogen contained in the faeces was calculated by the average contained in a mass obtained during the course of five or six days, taking away every day 30 to 50 grms. of fresh faeces from that emitted in the twenty-four hours. The amount of nitrogen contained in the urine was determined in a similar way, the diet being uniform for a given period. I took away 100 grms. of the urine of the twenty-four hours, every day, then I proportioned the total amount of nitrogen in the quantity thus obtained, then I divided the amount of nitrogen by the sum of the days of the given period, the result thus obtained representing the average of the daily elimination.

The results, corresponding to four different types of observations, are grouped in the four following tables:—

I. OBSERVATION.—Abundant albuminous adipose diet without Lævulose.

SUGAR IN THE URINE.

(Average of the 24 hours from May 21 to May 26th, 1897.)

Weight of the body.	Intake.			Output.	Comparison of Nitrogen.
	Food.	Nitrogen.	Calories		
40.80 kg	Drinking water, 1600 grms.	—	—	Urine.	Nitro. gen.
Meat 1100 grms.	33.22 grms.	1047.2	—	Amount, c.c.m., 1550; Specific weight, 1032; Glucose, 23.81 p. ct. grms	34.2 grms., that is 31.7 grms. in the urine and 2.5 grms. in the feces.
No. of eggs, 7	6.3 grms.	1069.0	—		A greater modicum of nitrogen was retained (5.32 grms. on an intake of 39.52 grms.).
	30.52 grms.	2146.2			

II. OBSERVATION.—Abundant albuminous adipose diet with Lævulose.

SUGAR IN THE URINE.

(Average of the 24 hours from May 28th to June 3rd, 1897.)

Weight of the body.	Intake.			Output.	Comparison of Nitrogen.
	Food.	Nitrogen.	Calories		
40.200 kg	Drinking water, 1580 grms.	—	—	Urine.	Nitro. gen.
Meat 1100 grms.	33.22 grms.	1047.2	—	Amount, c.c.m., 1600; Specific weight, 1036; Glucose, 40 per ct. grms.	35.08 grms., that is, 33.18 grms. in the urine and 1.9 grm. in the feces.
No. of eggs, 7	6.3 grms.	1069.0	—		A greater modicum of nitrogen was retained (4.69 grms. on an intake of 39.77 grms.).
Lævulose, 50 grms.	0.25 grms.	205.0	—		
	30.77 grms.	2351.2			

III. OBSERVATION.—Scanty albuminous adipose diet without Lævulose.

ABSENCE OF SUGAR IN THE URINE.

(Average of the 24 hours from June 10th to 15th
1897.)

Weight of the body.	Food.	Intake.		Output.		Compar- ison of Nitro- gen.
		Nitrogen.	Calories	Urine.	Nitro- gen.	
40,380 kg	Drinking water, 1700 grms.	—	—	—	—	
300 grms.	Meat, 9.06 grms.	105.6	—	—	—	
No. of eggs, 7	6.3 grms.	1000.0	—	—	—	
15.36 grms. 1204.6						

Amount, c.cm. 1600.
Specific weight, 1012;
Glucose, absent.

25.43 grms., that is, 24.38
grms. in the urine, and
1.06 grm. in the feces.

The output of nitrogen was
much greater (greater by
10.07 grms. on an intake
of 15.36 grms.).

IV. OBSERVATION.—Scanty albuminous adipose diet with Lævulose.

ABSENCE OF SUGAR IN THE URINE.

(Average of the 24 hours from June 17 to 22
1897.)

Weight of the body.	Food.	Intake.		Output.		Compar- ison of Nitro- gen.
		Nitrogen.	Calories	Urine.	Nitro- gen.	
41,200 kg	Drinking water, 1650 grms.	—	—	—	—	
450 grms.	Meat, 13.595 grms.	428.4	—	—	—	
No. of eggs, 7	6.3 grms.	1000.0	—	—	—	
Lævulose, 25 grms.	0.15 grm.	102.5	—	—	—	
19,945 grms. 1629.9						

Amount, c.cm. 1475
Specific weight, 1013;
Glucose, absent.

16.61 grms., that is, 15.71
grms. in the urine, and
0.90 grm. in the feces.

The modicum of nitrogen introduced was much greater
(greater by 3.335 grms. on
the intake of 19.945 grms.).

It is necessary to add the following to

the results shown in the four preceding tables:—

When, notwithstanding the diet being exclusively albuminous-adipose, glucose was still present in the urine, administering Lævulose augments the quantity of sugar contained in the urine. This fact I have verified, both with a liberal as with a scanty diet: when the diet was abundant, the amount of glucose in the urine was if anything, augmented, the quantity of Lævulose administered during the twenty-four hours also being increased; when the diet was scanty, then the amount of sugar contained in the urine and the quantity of Lævulose administered were small. In fact, in the observations from the 4th to the 5th of May the quantity of sugar contained in the urine amounted to 24.2 grms. per 1,000, the diet consisting of 1,100 grms. of meat, seven eggs, besides two cups of beef-tea, from the 5th to the 6th of May, 150 grms. of Lævulose being administered, and the rest of the diet remaining unchanged, the quantity of sugar contained in the urine amounted to 40 grms. per 1,000; and from the 6th to the 7th of May the quantity amounted to 55 grms. per 1,000, the administration of 150 grms. of Lævulose being continued. Equally, from the 12th to the 13th of May, with a scanty diet (300 grms. of fish, ten eggs, and two cups of beef-tea), the glucose in the urine was reduced to 6.06 grms. per 1,000; still, on the following day the administration of only 50 grms. of Lævulose caused the amount of sugar in the urine to increase to 11.36 grms. per 1,000. So that in this patient it was only when the urine was absolutely free from glucose that the administration of Lævulose did not succeed in producing sugar in it, and in the opposite case it only augmented the quantity already present.

When there is no sugar present in the urine, the quantity of Lævulose to be

administered during the twenty-four hours has not exceeded 50 grms. without sugar showing itself in the urine. In fact there was no trace of sugar apparent in the urine from May 14th to 15th, yet on 70 grms. of Lævulose being administered, sugar to the amount of 7.14 percent grms. appeared there, and, in spite of the administration of Lævulose being immediately suspended, sugar continued present in the urine for several days, so much so that the corresponding quantities were 4.34 per 1,000 from May 15th to the 16th, 1.688 per 1,000 from the 16th to the 17th, 13.84 per 1,000 from the 17th to the 18th, 3.02 per 1,000 from the 18th to the 19th, 2.94 per 1,000 from the 19th to the 20th.

So also a dose of 50 grms. of Lævulose per day could not be administered for two consecutive days, as, when it was administered for two days in succession, a small quantity of sugar (6.66 per 1,000) appeared in the urine on the second day. I obtained the same result by administering a dose of 25 grms. of Lævulose per day, namely, that even on the second day sugar to the amount of 4.54 grms. per 1,000 appeared in the urine, whilst, when administering 25 grms. of Lævulose on alternate days, sugar does not show itself in the urine, even when this alternate administration is continued for a protracted period of several days.

III

Among the facts observed and summed up here, I prefer to dwell upon the following: The quantity of nitrogenous substances, whose consumption has been saved by the administration of Lævulose has been much greater than would agree with the rule of the thermo. dynamic equality of the articles of food. According to this law, fixed by Rubner,* 100 grms. of albuminous substances would, as

sources of energy, be equivalent or isomeric to 44.1 grms. of fatty and 100 grms. of carbohydrate substances; because each of these three quantities, although treating of different alimentary principles, would contain the identical sum of 410 calories; therefore, 25 grms. of Lævulose administered daily isomERICALLY correspond to 25 grms. of albumen and to about 4 grms. of nitrogen, so that we ought not to have saved anything besides these 4 grms. of nitrogen. Instead of causing the output and the intake of the nitrogen in Observations III. and IV. to be almost alike, it is noticeable that the administration of these 25 grms. of Lævulose has been capable of saving no less than five-sixths of the nitrogen, a proportion vastly superior to the one saved by the simple law of equality, whilst the weight of the body increased from 40.380 kg. to 41.200 kg.

This fact is of positive value from a scientific as well as from a practical point of view. Scientifically, we gather from it that in very serious cases of diabetes the carbohydrates, although assimilated and utilized, reduced the material change in such a way as to produce a great saving in the balance of nitrogen, not only by the law of thermo-dynamic equality, but also by means of the bio-chemical structures, which have not yet been ascertained. From a practical point of view the result is that we must not deride as useless or insufficient the administration of such small doses of Lævulose as 25 grms. per day, as since they are not eliminated as sugar by the urine, but are utilized in the general metabolism, they are capable of great effect.

IV.

CONCLUSION.

The results here referred to, and to

*Rubner, "Calorimet. Untersuch," *Zeitschrift f. Biol.*, xxi., 383, 1885.

† "Sull' assimilabilita del levulosio nei diaabetici ecc." *La Riforma Medica*, luglio, 1897.

which I have previously called attention in a short treatise, † may be summed up thus:—

(1) When glucose continues present in the urine of a diabetic subject, in spite of the diet being exclusively albumino-adipose, the administration of Lævulose augments the quantity of sugar contained in the urine.

(2) When the sugar disappears from the urine, the diet being much scantier although exclusively albumino-adipose we may administer 50 grms. of Lævulose in twenty-four hours without causing it to reappear in the urine; but this quantity of Lævulose may not be repeated on the following day, as sugar would then show itself. It is

only with a dozen of 25 grms. of Lævulose administered on alternate days that the sugar does not show itself in the urine, even when this alternate treatment is continued for a protracted period of several days.

(3) This small dose of 25 grms. of Lævulose administered on alternate days, when not eliminated as sugar in the urine, saves the consumption of the nitrogenous substances in a much greater proportion than agrees with the law of the thermo-dynamic equality of the articles of food, so that this effect is also due to other bio-chemical structures which have not yet been ascertained.



MEDICO-LEGAL RESPONSIBILITY OF THE AGED AND THE PREMATURE SENILE CONSIDERED MENTALLY, PHYSICALLY AND MORALLY, PARTICULARLY CONCERNING THEIR SEXUAL FAILINGS, WITH CASES ILLUSTRATIVE.

BY J. J. CALDWELL, M. D., BALTIMORE, MD.

(Concluded from last month.)

CASE NO. TWO.

Dr. J. J. Caldwell, a witness called and sworn by the caveators, testifies as follows.

Direct Examination.

Q. (Mr. Colton.) What is your name, doctor, and where do you live?

A. J. J. Caldwell, M. D. I reside at 1138 North Fulton avenue, Baltimore; I used to live in Brooklyn.

Q. How many years have you been a practicing physician?

A. Thirty-two or thirty-three years.

Q. And where have you practiced?

A. In New York, Brooklyn, in the general hospitals of the United States army, and in dispensaries and hospital service generally; then I have been in Baltimore since 1873.

Q. In Baltimore since 1873?

A. Yes, sir.

Q. Twenty-one years in Baltimore and prior to that time in the army and elsewhere?

A. Yes, sir.

Q. In the hospitals in the army and elsewhere?

A. Yes, sir.

Q. Are you or not a specialist?

A. I am.

Q. As well as a general practitioner?

A. Yes, sir.

Q. What is your specialty, doctor?

A. I have been a specialist in nervous diseases for the last twenty years.

Q. Neurology you call them?

A. Neurologist they call me. That covers the whole field of nervous diseases throughout the entire nervous system.

Q. During the period that you have been practicing medicine, of course, you had occasion to observe the grippe, have you not?

A. Frequently.

Q. Won't you describe to the jury what the grippe is?

A. The grippe, *per se*, is a nervous dis-

ease essentially, but it manifests itself in the way of bronchial troubles particularly, and there must be a certain distinction between the grippe bronchial trouble and the ordinary bronchial trouble, and hence a great many people ascribe the ordinary bronchial troubles to the grippe in some instances, and it ought not to be associated with it. It is a fearfully destructive disease to the brain and nervous system, and the grippe, *per se*, has been very disastrous; it has been very prevalent over the continent for a very long time, although it is comparatively new to us. One of the learned German philosophers has made it a special study, and it became so violent throughout Germany and the continent that it destroyed thousands and thousands, and it has been more destructive even than small-pox, but this grippe in late years is not quite so destructive to induce you to notice it so much, and unless you treat it from a neurotic standpoint it is almost impossible to relieve it.

Q. Grippe has been defined as a depressor; how does it depress the patient?

A. It depresses the patient by its action on the circulatory system through the heart; the system that has to do with the nerves, so much that the heart beats feebly and slow, or feebly and very quick, thus shutting off the natural amount of nourishment to the brain and other nerve centres.

Q. Does it not, and if so, how lead to cerebelatrophe?

A. If it is partially starved, or wholly starved, or partly starved some nerve centre, that centre begins to fade, to grow less in size from the want of nourishment, and it is demonstrated on the frontal portion of the brain, which has to do the work of the thought.

Q. Do I understand you to say that the grippe has a tendency to produce an effect on that portion of the brain?

A. Yes, sir, and I am sustained in that position by the best of authorities of New York and Paris and London. Mind you, it must be grippe *per se*, but when we come to that disease we have a disease which impresses itself on the brain and the thought centres of the brain, and causes the centres of sensation to be paralyzed.

Q. Then the centres of sensation are paralyzed as a consequence of this disease?

A. More or less.

Q. How does that affect, if it does affect, the operation of the patient's nerves?

A. It shows in the capacity of knowledge and sensation; generally it has the effect of diminishing the sensations from the centre to the upper extremes and to the lower extremes and back to the centre.

Q. Now, what is the capacity of a patient in the condition described by you with regard to consecutive thought and action?

A. Well, I have described it pretty fully. A patient under this influence would be incapacitated; he could not in a moment, many moments or several moments, or a very short time, maintain consecutive and constant thought, with his nervous system so prostrated from the fact of his brain being starved.

Q. Now, doctor, I have a hypothetical question here. You have been out and in, and I do not know whether you were in when the question was read. Were you in when Dr. West was being examined?

A. No, sir, I was away.

Q. Now, I will read the question to you. (Question read.) Now, assuming the above statement to be true, can you, from that form an opinion as to the condition of the testator's mind at the time of the execution of the will, on December 28, 1891?

Mr. Fisher—Of course we reserve our exception to that and the next question.

A. As an expert and specialist I am sure I can form an opinion.

Q. What is that opinion?

A. I don't think he was capable of making a valid deed or contract.

Q. When?

A. December 28, 1891. I would like very much to go into that, though.

Q. Well, give your reasons, then.

A. I would like very much to give my reasons, because maybe it would seem too general to say such a thing without giving reasons.

Q. If you want to give your reasons, give them.

Mr. Fisher—We object; we want to object, if your Honor please.

Witness—Well, I will take them up *seriatim*.

Q. Now state the grounds on which you form the opinion just given?

(Objected to; objection overruled and exception noted.)

A. Gentlemen of the jury—Old age creeps on apace; the diseases of old age, mental and physical, do not explode like the efflorescence of scarlet fever or a fracture by tromatism. They come gradually, creeping step by step each year, and we have here, as we will say, a man, I believe, of seventy years of age, approaching the age of senility, for the age of seventy years may be said to be approaching that age, and the very first evidence of brain disease, the very touchstone, I may say, of mental incapacity is the memory; it begins to fail, and we see it more and more so until we see it in the condition of this poor old lady who has just testified, saying that she remembered nothing excepting some little things that might come to her mind casually. This man had reached the age of seventy years —

Mr. Colton—Eighty years old.

Mr. Fisher—One moment, Mr. Colton; let him answer the question.

A. That is ten years more. He had reached the age of eighty years before he attempted to write that important instrument called his last will, and I do not believe, to take it as a rule, that there is one man in ten thousand of like age that can comprehend that from beginning to end, if it should be explained to him and read to him, in an hour after that time; he would not be comprehensive as to what he had done in all these many parts and portions of it. The outcome of this most depressing of all nervous diseases, a genuine attack of grippe, as certified by his medical man, as described by the hypothetical question, that is, his having lost this sensation in the centre of the brain, is that the disease of his nervous system must have depressed him fearfully. I think the testimony is that he coughed all night the

night before he made the will, and I know how depressing the grippe is individually, as I have not only had many patients, but I have suffered myself from it, and I think he would not have been able under these circumstances to contemplate all the features of this complex document. Then his memory was at fault; perhaps a moment afterwards, and all the way through the long attack of grippe, from the beginning until the final scene of his existence. Then we had evidence, too, that he was not conscious of the different degrees of temperature; in a cold room he would sit indifferently showing that there was a paralysis of the sensation, those nerves that come from the brain and bring sensation to the skin, the touch, the most delicate part of the human frame. In the finger alone there are over thirty-two thousand loops that answer to the touch; and he was unconscious there to any effect, partially or wholly. He did not complain of the cold or heat; these sensation centres, coming from the nervous centres, directly from the brain, from the frontal convolutions, it would indicate a senile disease, ataxia—a senile disease, or brain disease, that grippe would produce upon the brain. In a severe attack of grippe on the brain there is a certain lessening of blood flowing from the heart; that blood is the nourishment to the brain, and without that nourishment the brain becomes astrophied; the atrophy of senile dementia.

Q. In your opinion, would or not, from the facts stated in the hypothetical question, a person described in the hypothetical question suffer from senile dementia?

A. Of course he would.

Mr. Fisher—One minute—we object to that question.

Mr. Clendinen—Don't answer the question.

Q. You spoke of ataxia just a moment ago, indicated by his indifference to heat or cold. What is that?

A. It is a want of perfect feeling, the sensation of feeling and touch, and when it is profoundly so we call it anesthesia.

Q. You said that his disease was not an explosion, or something of that kind; what did you mean by that?

A. Not an explosion or effervescence like scarlet fever.

Q. What did you mean by that?

A. I mean it was a progressive one. I have no doubt it was progressive in a man of that age; it would be very rare if it did not. I have had a very large experience in the hospital at Elmira, where the young men and boys were sent at the time of the war, where we had thirteen thousand to take care of, and we had a great opportunity to study old men's diseases there, and besides I had the opportunity to make a large observation in my own patients.

Q. What is the indication of a halting gait?

A. It may be either one of two paralyses, either the spinal or brain paralysis. In connection with ataxia I look upon it as an indication of a brain disease.

Q. A central brain disease, the effect of that is what?

A. To destroy the brain physically and mentally; it is to destroy his physical and mental capacity.

Q. Affects the use of the brain, of course?

A. Affects the use of the brain, of course; the brain is like any other organ, and is governed by the same physiology.

Q. You spoke of memory. In respect to memory what did you say?

A. That it is the touchstone of mental capacity. In that I am supported by such authorities as Field, Beck and Taylor, Elwell and Maulsby, and many other authorities. I think it so simple that even the medical jurisprudence of Rogers will give you that idea.

Q. And the loss of memory indicates the loss of mind?

A. Mental incapacity to do business. Memory is the warden and the storehouse of the mind, and if memory fails, you begin then to lose judgment and order, and there is confusion. After memory has failed you have indifference; that is, confusion and the other qualities of the brain.

Q. Define to the jury what a delusion is?

Witness—An insane delusion you mean?

Mr. Colton—Yes.

A. There are many delusions. The insane delusion is one of these beliefs

that the patient believes certain things when there is no fact to sustain them and all the efforts to the contrary will not convince the patient that he is under what you call a delusion.

NOTE.—After Judge Fisher's objection to this line of questions, as well as all the questions on senile dementia, Mr. Clendinen asked leave of the Court to withdraw both the questions and answers in reference to delusions and senile dementia from the record, which was granted, and Judge Fisher said that he did not desire to cross-examine the witness.

Mr. Colton—That closes our case, if your Honor please.

CASE NO. THREE—OSTERTAG.

Some years ago there came to our shore a poor Dutchman, a thick, heavy set man, medium sized and almost a giant in apparent physical development, with very little brain and nervous system and much less mentality. He settled down to business in Old Town, near President street depot. By dint of economy and hard knocks he accumulated means and property in the retail liquor traffic, but there and then he met his Nemesis, sharp, smart, designing enemy who made him her quasi husband, and who took full possession of his soft side. He never was endowed with the opposite hard side; hence he was readily inveigled into her idea of making her his confidant, his trustee, his assignee in *de facto*; and she then became possessor of his property, of his money and of his license, and of another man's love, and of his (Ostertag's) divorce. Fooled into the idea of giving her away and presiding at the wedding, and allowing himself to be caajoled into the deception of having illicit intercourse, another cotemporaneous fraud, making up the fraudulent pretension for a cause of divorce, obtained by perjury through the divorce mill. When he slowly discovered the deception, he went about setting aside by law the previous divorce proceedings which were denied him by the honorable Court. Then he came under my special observation, when the whole proceedings were declared to be a stupendous fraud to me. First, his genital organs were almost entirely undeveloped, *ariet developma in utero*, or prenatal development, being

about the stage of a twelve-year-old youth, so his virility was absolutely nothing. He also in time developed severe Bright's disease to that extent that would disable a fully developed man, as proven by his family and insurance physicians, as well as by myself, all sworn testimony. The opposition tried to show that his business pursuits maintained his mental integrity. I on the contrary claimed the whole of his action to be a matter of habit, in which I am sustained by the very best authority and a long experience in such matters in hospital, dispensaries, civil and military practice.

For a plausible explanation of the causes and sources of involuntary action of man, I am indebted to a paper by Hammond; entitled "The Brain Not the Sole Organ of the Mind," published in the *Journal of Nervous and Mental Diseases*, Chicago, 1876.

Man sleeps, dreams, awakes, and oftentimes masticates, works, swears and prays involuntarily. Says Pendleton, a day seldom passes when we do not find that we have done some slight thing without knowing it, such involuntary acts as that indicated by the boy's reply, "I didn't whistle, it whistled itself." And so from every stage of life to the grandmother knitting, asleep in her chair, we have similar illustrations. The girl at her sewing machine watches her work, but the treadle runs on from habit. not thought, yet her foot stops instantly when she changes her work.

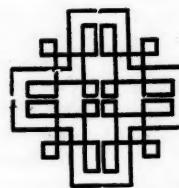
* * * * *

In the absent-minded person, however, habit works independent of control, and takes advantage of his abstraction to lead his feet into the ditch, while his head is among the stars, or lets him swallow the dice and throw his glass of wine into the backgammon board. Huxley tells the story of a French soldier who was shot in the left parietal bone, and in consequence became paralyzed on the opposite side of the body. Recovering in two years from the paralysis, he entered upon a double existence. In his normal life he was perfectly well and a capital hospital attendant. For a day or two in each month he passed into another life, without intimation. In this abnormal existence he was active, moved about as usual,

and was to all appearance the same person as in his normal state. He went through all the ordinary habits of his life, yet during what may be termed this artificial, unreal existence, he neither saw, tasted, heard or smelled, nor was he conscious of anything whatever, and there was only one sense in a state of activity, that of touch, which was exceedingly delicate. If an obstacle obstructed his way he knocked against it and went to one side. If he was pushed in any direction he went straight on.

Another illustration is that of an old mule that had spent his life grinding bark, and when too old for service was turned out to graze. At stated intervals every day he was observed to leave grazing and travel round and round an apple tree in the pasture. We can find individuals, or even nations, whose life is hardly less mechanical than that of the poor soldier or the broken down mule. Life, therefore, is much a scene of habit; it is true, and 'tis a pity 'tis so,

that man is oftentimes the creature of habit, a party of environment, surely not wisely so. See the auto-toxic hovering around the dying and the dead, the grave digger exposing hidden and festering germs, a large procession in juxtaposition with the dead to the grave; these are mere matters of habit of a non-hygienic character. The education of the plaintiff by hereditary and acquired practice was his habit of work, as was his experience as the host of his saloon and as servitor at this mock wedding. See in history. Joseph and his Mrs. Potiphar, Noah and his designing daughters, Holofernes and his Judith, Mrs. Uriah and her David, the Moor and his Desdemona, Hamlet and his Ophelia, Mrs. Macbeth and her Banquo, Henry VIII and his seven bewitching ones, one of the Adams of Boston and his fairy, George Ketcham and his betrayer, Dis Debar and her learned and Senate Judge, Ostertag and his Emma, and Emmert, he the premature senile imbecile.





Editorial

THE MEDICAL TIMES AND REGISTER is published monthly.

All communications, reviews, etc., intended for the editor should be addressed to 367 ADAMS STREET, DORCHESTER, BOSTON, MASS.

THE MEDICAL TIMES AND REGISTER is published by The Medical Publishing Co 1409 Arch Street, Philadelphia, Pa., to whom all remittances should be made by bank check, or postal, or express money order.

Subscription price is \$1.00 a year in advance. Foreign countries, \$1.50. Single copies, 10 cents.

Advertising rates may be had on application at the Philadelphia office.

Original articles of practical utility and length are invited from the profession. Accepted manuscripts will be paid for by a year's subscription to this journal and one hundred extra copies of the issue in which such appears if desired.

Reprints of Original Articles are not furnished except on payment of cost price by the author

Entered at the Philadelphia Postoffice as second-class mail matter.

THE NEW YORK SCHOOL OF CLINICAL MEDICINE ERRONEOUSLY REPORTED AS CLOSED.

Within the past two weeks there have appeared in the news columns and in the advertising pages of several of our contemporaries a notice to the effect that the New York School of Clinical Medicine had discontinued in consequence of some friction between the trustees of it and the teaching staff. This we are assured is absolutely without foundation, as the school is in full operation in every class, and this summer its classes are larger than ever before.

A move—and a despicable one at that—has been made by a few of the

corps of professors who have withdrawn, to burn the bridges after them and endeavor to destroy the institution which conferred honors on them and gave them a prominence they never before enjoyed. But their puerile efforts have been completely frustrated, and now that the elements of dissension have dropped out, it is expected the school will enter on a new era of prosperity. But two or three of the more active instructors have retired, so that the vacancies on the staff will be readily filled.

T. H. M.

HOMEOPATHY FROM AN OUTSIDE POINT OF VIEW.

A druggist tells us that people often remark to him of the seeming increase in homeopathy, in a wonderful way. He places the blame for this on the "regular" school. The increased use of the tablet triturates and the pocket case by "allopaths" has much to do with this idea of the increase of homeopathy. In his vicinity members of the regular profession who carry such cases are often taken for homeopaths by the public in general. Not long ago a certain regular lady practitioner wanted a certain kind of tablet. It looked like the kind carried by the homeopaths. She remarked while purchasing that "everybody was so inclined towards homeopathic forms of medication that she was obliged to carry these tablets in order to cater to the whims of the vicinity." The druggist was afterwards amazed at the following statement of one of his customers. The customer had a daughter ill with malaria, but the recovery had been remarkably slow and tedious. He said she had been treated by a

homeopathic physician (with a shrug of the shoulders indicating that he did not place much confidence in that form of treatment). On further inquiry it was learned that the doctor was the same regular lady physician who had been complaining that the vicinity was so inclined to homeopathy. This very doctor had, therefore, been fostering the private dispensing form of treatment and had purposely led her patient into the error of believing her to be a homeopath. Moreover she had been allowing her case to continue with inefficient treatment in order to cater to public whims and, possibly, run up a bill.

Such methods are despicable, but are practised right along by members of both schools. We have seen the rankest form of prescriptions sent to drug stores by homeopathic men, who have little confidence in the principles of their own school, but yet who desired to gull the public into the belief of homeopathic success through allopathic means.

STERILIZATION OF THE HANDS.

Phocas, in a late issue of *Le Nord Medical*, contributes an interesting and highly important essay on the subject of cleansing the hands before operations. He observes that recently a very interesting discussion was held on this topic in the Academy. This subject concerns not only surgeons operating daily, but all practitioners as well.

The rules to be observed are simple, but sterilization must always be efficient. An elaborate dissertation on the subject was recently submitted in *La Semaine*, going over the subject in detail. No physician worthy of the name would escape chagrin who believed that through want of efficient asepsis on his part a patient died after operation.

The method is simple. We begin by washing and thoroughly scrubbing the hands with warm water and soap. The water is changed, and again we soap and scrub. Now the nails are trimmed and the sulci well scraped; then after a rinsing the hands are well doused in 90 per cent. alcohol, after which the hands are placed in a 1 to 1,000 solution of bichloride. We are now ready to proceed. Another method often followed by myself is, after well scrubbing the hands in soaped water to place them in a 5-6 solution of permanganate solution of potash; they are then decolorized and rinsed in a solution of bisulphite of soda and dipped in the bichloride solution. 1 to 1,000 formaline may be employed as a

substitute for the bichloride, after which the nails are immersed in ether and iodoform. Whatever method is adopted, it is essential that the hands are well sterilized. Some authors have maintained that the hands can be rendered aseptic by the free use of the brush with soap and water, and that this can be demonstrated scientifically.

Terrier does not deny this, but alleges that some hands are easier sterilized than others. Harris, Quenu and others, on the contrary, allege that the complete sterilization of the hands is often very difficult. However, for practical purposes, but three things are necessary : the scrubbing of the hands with abundant soap in warm water, thorough rinsing in alcohol, and finally, free imbibition of bichloride solutions. There are circumstances, it appears, in which no amount of chemicals will effectively sterilize the hands. For example, M. Nelaton records an instance in which he operated for cancer of the intestine with a large purulent collection in the iliac-fossa. For several days he dressed the wound. Then after an interval of two days, during which he did not see his patient, when he believed the danger of conveying infection past, he performed a simple operation for the cure of an umbilical hernia. Four days later the latter patient died of septicaemia. Quenu and others deny that two days is a sufficient interval to delay after we have operated on a septic case before we can safely undertake an aseptic operation on another. I had a sad experience myself in this direction. Forty-eight hours after an operation for acute suppurative osteomyelitis of the tibia of a child, I practiced a laparotomy for fibroid of the uterus. As I was apprehensive of the danger, I treated my hands with the most rigorous care. But in spite of all, my patient died eight days later of purulent peritonitis. No laboratory demonstration will efface this sad accident from my mind. I am not accustomed to see septic peritonitis after any laparotomies. This is my first case, the cause was exceptional and the result also exceptional. But mine and Neleton's were not the only ones. They occur, alas ! too frequently in the hands of the careless. We must admit then, that regardless of whatever

precaution may be observed the surgeon may convey the contagion of a virile case to another operative case after twenty-four or forty-eight hours.

Let us remember, then, that the hand is sterilized with difficulty, and having been touched by pus is contaminated and liable to convey contagion for several days.

What means have we to escape soiling the hands with pus, and if under suspicion how will we protect healthy parts from being infected by them. By the employment of gloves, as was first recommended by Mikulisz. With impermeable gloves we may protect the hands from all possible infection, and if not sterile themselves protect sound tissues from being contaminated by them. They should be especially used by the practitioner in attending labor cases, opening abscesses and fistulas. The gloves may be boiled and rendered absolutely sterile. The glove has been said to be clumsy ; but it is a matter of practice, when we will find the objection will not hold. I have performed the most delicate operations in the abdomen with them on, and never with any inconvenience. They protect the fingers from being scratched by the needle, the instruments are held more securely with them on. Moreover, the danger of infection from a humid perspiring hand are obviated. With a little practice we can become accustomed to them. By their regular employment we are always positive that we have conveyed no septic material into a wound. If we soil our glove by contact with pus, we change it on the spot for a sterile one. Recently M. Marian has invented a white varnish to substitute the glove. Laboratory experiments have proven the material quite efficient, but it cannot replace the gloves, because it is removed from the hands with difficulty. *1st Julliet, 1900.*

NOTE.—Human ingenuity has come to devise and invent mechanical substitutes for nearly everything the hand can do. Artificial teeth substitute to great advantage, the natural ; machines have come to perform the most delicate manipulations in all the arts and industries ; nor has operative medicine been slow in utilizing all the modern devices, so that the time is no doubt in the near future when

we will perform many of our major operations by "machinery." Operations are now so performed in dental surgery. The burr, the drill and buzz saw are also utilized in osseous surgery. Reverdin has shown us how, by the use of hooks and pulleys a fibrous tumor may be lifted out undetached, without being touched by the hands ; and Turck, of Chicago, has invented a machine—the gyromole—which irrigates, scrubs, sprays and electrolyzes the walls of the stomach with ease and great advantage. Murphy got his hint for the invention of his wonderful device from the cuff-button. Modern teaching, investigation and experience undoubtedly point to "the passing of the hand" in ideal aseptic surgery. It must be masked or hooded and be never brought, in the nude state, into contact with the deeper, vital parts. Instruments and machinery must take its place, its contaminated surface must be walled off by the interposing, impermeable rubber glove, or some fabric which can endure a degree of heat fatal to vital tissues. The valuable contribution of the distinguished M. Phocas and our own experience conclusively point in this direction. They

prove that antiseptics, except as an aid to effective asepsis, have no place in operative surgery.

The glove has come to stay, and we will soon wonder how we ever succeeded in aseptic operating without it.

In laparotomies, in all non-malignant cases, when the patients' general condition warrant them, with stringent aseptic precautions, there never should be a death from surgical infection, because the peritoneum is much less susceptible to dangerous irritation and infection than is osseous substance. By vigorous asepsis the greater danger of most formidable operations have been removed, the time period of convalescence greatly shortened and many painful sequelae obviated. Moreover, in laparotomies for non-purulent conditions, now that peripheral infection does not occur, are rarely followed by that *bele noir* of abdominal surgery in the past, ventral hernia. The only danger is, that this immunity may lead the enthusiastic or unscrupulous on to too much unnecessary operating ; to those mutilations which bring surgery into contempt and under condemnation.

T. H. M.

SURGICAL ANÆSTHESIA BY INJECTION OF COCAINE INTO THE SPINAL CANAL.

M. M. Severeano and Gerota—Bull, et Mem. De Le Soc, De Chirurgie. Bucharest, Jan., 1900, have recently published the record of a considerable number of cases of effective anæsthesia by the injection of 10 per cent. solutions of cocaine directly into the spinal canal. There were eight cases. One for radical cure of hydrocele. Three cubic centimetres of cocaine were employed, the injection being made in the lumbar region. In fifteen minutes the analgesia had extended up to the umbilicus.

2nd case.—Same technique, for ball lodged in ex. condyle of femur. In ten minutes analgesia complete and missile extracted.

3rd case—For popliteal abscess involving bone. Abscess opened and bone curetted. Anæsthesia profound.

4th case—Removal of large sarcoma from thigh.

5th. Patient operated for extensive necrosis of trochanter, necrosed bone gouged away and thermo-cautery applied.

6th. Inguinal hernia, radical cure. Insensibility absolute. Intra-rachidian injection. 3 c. c. m.

7th. Strangulated hernia with stercorous abscess and gangrene of intestine. Anæsthesia absolute to umbilicus in twenty-five minutes. Operation consisted in castration, extirpation of sac and resection of gangrenous intestine, with artificial anus. Operation lasted forty minutes.

8th. Operation for lacerated perineum.

M. Th. Ionesco added four new cases. One for cure of inguinal hernia; one for curetting a tubercular knee-joint; one for epithelioma of penis, in which complete emasculation was performed and one removal of uterine fibroid by abdominal hystachotomy.

NOTE.—What the future of intrarach-

dian cocaineization will be is yet doubtful, as these authors are very guarded in their attitude on the subject; both affirm that they are not yet prepared to speak for or against it. It seems that as far as simplicity and effective insensibility to pain go, for any operation on the part of the trunk or extremities particularly, its action is perfect. M. Racoviecano Potesti blends a small proportion of morphine with the injecting fluid and thus had remarkable effects in the way of completely annulling pain in operations for phagadenic chancre, for removing an ovarian tumor, for urethral polypus, retroflexion, osteomyelitis of tibia, hydrocele, inguinal adenitis, pyosalpynx, inguino-scrotal, hernia, anorectal fistula, perinepritic abscess, strangulated hernia, penico-hypo spadias, and chancrous vegetations.

But these injections involve many serious dangers and inconveniences. It appears that the circulation is profoundly effected, intense cerebral congestion follows with great exhaustion. In many there is not only paralysis of the pain sense, but also motor-paralysis, with urinary and faecal incontinence. In most cases anaesthesia is complete from twenty to fifty minutes. The effects on the system are profound and may last for some days. In some of the recorded cases it seems that owing to idiosyncrasies the drug acted with toxic energy; or again failed to make any impression at all when ether or chloroform had to be given.

But the old proverb, "any port in a storm," is a good one, and there is no doubt but there are many circumstances in which the intratracheian injection of cocaine must constitute a precious re-

source, as for example, when an immediate operation must be performed without adequate assistance, or pulmonary anaesthetics are interdicted.

A Prevez syringe is employed, the injection made after a quantity of the cerebro-spinal fluid is removed, equal to that injected.

There is apparently, under strict anti-septic precaution, no danger of meningitis following this mode of inducing anaesthesia.

T. H. M.

ANY physician who is in the vicinity of Jersey City will do well to visit the laboratories of Messrs. Reed & Carnick, which are situated at 42 Germania avenue, that city, and inspect them. They are conducted on entirely scientific principles, and are supplied with the most modern apparatus, which is presided over by the best pathologists and bacteriologists that could be procured.

The New York School of Clinical Medicine has not been discontinued. Will you kindly publish this statement, in order to refute the erroneous announcement to the contrary appearing in a few of the medical journals.

Very truly yours,
MARCUS KENYON, M. D.,
Secretary N. Y. School of Clinical
Medicine.



PEDIATRICS

In charge of LOUIS FISCHER, M. D.
and LEOPARD F. W. HAAS, M. D.

SOME PRACTICAL POINTS IN INFANT FEEDING.

Every doctor who undertakes to care for a child should be a specialist for the time.

To insure success, certain simple but very important rules must be followed when children are breast-fed as well as when they are artificially reared. Of these may be mentioned, (1) regularity of feeding, (2) the length of time the child is allowed to remain at the breast at each feeding, and (3) the avoidance of night nursing.

Frequently colic and disturbances of nutrition are due to failure to observe these rules.

Breast feeding does not agree in all cases. With some babies, who have colic, it is well to remove them from the breast after they have nursed for five minutes and then give them a teaspoonful of hot water; after a little more nursing a teaspoonful of lime-water may be administered. The procedure is simple and is often beneficial because the milk is not taken so rapidly.

All babies should be given water to drink, and breast-fed babies after they are two or three months old will often do well with one bottle feeding a day. Cow's milk is the food for all babies who have not the breast. It is always necessary to observe the individual baby's needs in the proportions of the modified cow's milk.

Filtration through cotton is advised in place of pasteurization or sterilization.

Written directions should be given for each case. *International Medical Magazine.*

GASTROINTESTINAL INFECTIONS IN INFANTS.

After a consideration of the forms of gastrointestinal derangements and a mention of the bacteria that have been described as causative of these disorders he mentions that the pyogenic microorganisms may, under certain conditions, gain access to the gastrointestinal canal and produce symptoms of septic infection. This is particularly true of new-born children. This causation is emphasized in the report of the case of an infant nineteen days old. As the autopsy did not show an infection of the umbilical vessels it was supposed that the primary infections was through the gastrointestinal canal. As conclusions the following are presented:

1. The acute gastrointestinal disorders of children cannot be attributed to a specific form of bacteria.
2. The toxic symptoms of gastrointestinal infection depend upon the introduction into the alimentary canal of poisonous substances which are contained in the food. Vaughan isolated a toxic substance, tyrotoxicon, from milk, which was poisonous for man and animals.
3. Bacteria may be introduced from without; or the ordinary saprophytic bacteria which inhabit the intestinal canal may take on a special virulence.
4. The most severe disturbances are caused by the metabolism of bacteria. These microorganisms by their activity either produce acids or cause decomposition of albuminoid substances; the products act as powerful irritants to the intestines, and by injuring the intes-

tinal wall gain access to the blood and lymphatics, in this way producing the local and constitutional symptoms.

5. There can be no doubt that specific intestinal infection may occur in infants. Typhoid fever, though not frequent in very young children, may also occur.

Medicina.

TREATMENT OF DIPHTHERIA WITH IODIC ACID AND HYDROGEN PEROXID.

One hundred and fifty-five cases of diphtheria of the fauces have been treated by the author by the following method: The faacial mucous membrane is sprayed with a three per cent solution of hydrogen peroxid. As long as the mucous membrane is affected by the disease it is whitened by the action of the remedy. Half an hour after the spraying a small quantity of the following powder is insufflated, one part powdered iodic acid to ten parts of powdered sugar.

The two remedies are used alternately at intervals of half an hour. Where possible a gargle is used in addition to the other treatment. The gargle is iodic acid, $7\frac{1}{2}$ grs.; distilled water, 13 oz.; purified glycerin, 1 oz.

To avoid irritating the lips they should be covered with vaseline before using the spray. Chinaphol is administered by the author as an antipyretic in daily doses of from 15 to 30 grains, divided into $3\frac{1}{2}$ to $7\frac{1}{2}$ grain doses. Every hour a dose of a 5 per cent. solution of sodium benzonate in sherry wine is given.

He advises swallowing bits of ice, cold compresses to the throat and a milk diet. This treatment is of value only in recent cases before the occurrence of toxemia. The six fatal cases in this series were all cases of laryngeal diphtheria.—*Wiener med. Blatter.* No. 46, 1899. *Der Kinderarzt.* January, 1900.

TREATMENT OF DIPHTHERIA.

The following summary gives the author's ideas:

1. Antitoxin, properly administered, has a specific effect on diphtheria.
2. Serum therapy materially shortens the duration of diphtheria and reduces the mortality at least one-half, not only in pharyngeal and nasal cases, but likewise in laryngeal diphtheria.
3. The earlier it is administered the better are the results obtained.
4. It is doubtful if it reduces the percentage of cases of paralysis unless it is given in the first two days of the attack.
5. One large initial dose is productive of better results than repeated small ones.
6. Antitoxin should be administered as soon as the clinical diagnosis is made.
7. It is practically harmless.
8. It is of no value in streptococcus sore throat.
9. The immunity conferred on healthy persons lasts about one month.—*The Southern Practitioner.* Vol. xxii., No. 1. 1900.

CONGENITAL DISLOCATION OF THE HIP.

Wm. E. Wirt, in *The Cleveland Medical Gazette*, gives us an interesting article on this subject. He discusses the frequency as gathered from various observers and finds a great divergence in statistics. It constitutes about one per cent of all cases of deformities. It is more frequent in girls than in boys, and cases of double dislocation are found more often than single. The condition is very apt to be overlooked or mistaken for other affections, especially infantile paralysis, acute antritis of infancy, rick-

etts, hip disease, and spinal affections. He cites ten cases in which this condition had been overlooked by the general physician and surgeon, and attributes this to the carelessness with which most physicians examine their cases. It is almost impossible in many cases of orthopedic affections, to make an exact diagnosis, without stripping the child completely and testing all the functions of all the joints. This is considered by all teachers of orthopedics to be the only satisfactory way.

Among the pathologic changes found in this condition he mentions absence or imperfection of the rim of the acetabulum, laxity of the ligaments, shortening of the head of the femur or its entire absence, and the upward dislocation of the greater trochanter. The diagnosis is made by the peculiar waddling gait, the prominent hip or hips, lordosis in the lumbar region, delayed walking, pain, crepitus, mobility of the head of the femur, and its relation to Neill's line. Movements of the hip may be almost normal or quite so, the motion usually restricted being that of external rotation. The author then discusses the differential diagnosis between this affection and those with which it is most often confounded.

Until quite recent years, the treatment of this condition has been very unsatisfactory, reliance being placed on purely mechanical means, traction and fixation for long periods. Few cases of absolute cure can be claimed for this procedure. The operative measures devised for the cure of this affection have been many and mostly unsatisfactory. Only two are considered by Wirt as being of any use whatever, viz:—the reposition of the head of the femur under anesthesia by the method of Lorenz, and the cutting op-

eration of Hoffa, as modified by Lorenz and Whitman. Lorenz's method consists in pulling the head of the femur down to the level of the acetabulum. The thigh is then flexed to less than 90 degrees and slowly abducted with one hand, while the other guides the head into place. As soon as the limb has been sufficiently abducted a sharp click is heard as the bone slips into place. The limb is now placed in plaster, flexed and abducted until the weight of the body has had time to form a new acetabulum. Hoffa's method consists in cutting down on the joint, pressing the head of the femur by cutting the muscles, scooping out a new acetabulum, and reducing the dislocation. The limb is now put in plaster of paris until the parts are thoroughly healed and then passive motion is begun. In children under two or three years the bloodless operation should be done, while up to the age of eight or nine the cutting operations are to be preferred; after this age very little can be done owing to the marked anatomical changes. The remote dangers to be guarded against are relapse, adduction, flexion, and limitation of motion.

In comparison with the above paper a case occurring in the practice of the writer should prove interesting.

K. J. Aet 29 had congenital dislocation of both hips, as well as a marked scoliosis, and the usual lumbar lordosis. The anterior curvature of the sacral promontory and the pendulous abdomen were well marked in this case. She married and became pregnant. The pelvis was justo-minor and contracted in the left oblique diameter, which measured half an inch less than the right (external measurement). The internal conjugate was four and one half inches and as both parents were small in stature pregnancy

was not interfered with. The labor progressed very slowly, and it was decided to rupture the membranes after the pains had continued for twenty-eight hours, and the cervix found to be sufficiently dilated. The head however had not advanced a particle, after four hours waiting, and, very little advance having been made, the strength of the patient was found to be insufficient to expell the child, and forceps were applied with excellent results, a healthy child being extracted, weighing seven pounds. The interesting point about this case was the fact that the lordosis was so marked that the uterus could not rest in its usual axis, and was tipped forward. This caused a waste of energy on the mother's part, because the muscular force could not be directly applied in the long axis as it should be.

INFECTION FOLLOWING REMOVAL OF ADENOIDS.

B. S. Booth, *Albany Medical Journal* October, 1899, reports a case of infection following removal of tonsils, adenoids, and nasal exostosis, in a boy nine years old. The latter complained mostly of anorexia, and a chronic nasal catarrh, as well as frequent pains in his knees. The operation was performed under ether with antiseptic precautions. The next day the temperature rose to 101 degrees and in a few days the diagnosis of pneumonia was made followed shortly by the characteristic symptoms of a basilar meningitis, and "exitus lethalis." Soon after this Booth's atten-

tion was called to a similar case, the child of a physician in whom the removal of adenoids was followed by a meningitis. In neither case was an autopsy obtained. The writer thinks that the appearance of meningitis could be considered either as the result of septic infection, or as an exacerbation of a latent tuberculosis. For the latter theory, various points in the history and in the general appearance of the child could be put in evidence.

Koplik (*Arch. of Pediatrics* No. 8, 1899) calls attention to the fact that the exploratory puncture of the Pleural cavity should only be admitted when the physical signs make the diagnosis of fluid almost certain. In those cases in which the presence of fluid is only suspected, the puncture should be omitted; for he holds that the operation is not devoid of danger; several times he has had hemorrhage of the nose and throat follow an exploratory puncture, and the children became restless and suffered considerably from an irritable cough. In animals he has seen death from suffocation follow such a puncture, due to the filling up of the bronchi with blood. In human beings this is hardly possible, except in cases of pemphigus, because the cough itself would tend to stop the bleeding, even at the point of greatest dullness. Koplik does not introduce the needle more than two centimeters, and never more than once at a sitting. He advises great caution when probing on the left side on account of the nearness of the heart and large vessels.

L. F. HAAS, M. D.
773 Forest avenue, N. Y. C.

CLINICAL SURGERY AND SURGICAL PATHOLOGY.

In Charge of T. H. MANLEY, M. D., New York.

MEDIAN OSTEOTOMY OF THE HYOID BONE AS A MEANS OF ENTERING THE DEEP PHARYNX AND THE BASE OF THE TONGUE.

BY M. VALLAS, REV. DU CHIRURGIE, MAR., 1900.

The pharynx and lingual base are regions not easily accessible to the surgeon.

Hemorrhage may be redoubtable and the danger of asphyxia is great. We are in the vicinity of great blood trunks and nerves. The procedure in view obviates many of these dangers.

It was first employed by myself in 1895, to remove a cancer of the epiglottis. Since then, I have utilized this trans-hyoid breach for various operations.

OPERATIC MANUAL.

First, make a vertical incision through the skin and connective tissues from posterior border of symphysis to the superior border of the hyoid cartilage. In this cut, we divide no important vessels except, sometimes, a branch transverse of a vein, from one jugular to the other.

Now, we expose the body of the hyoid, the superficial aponeurosis being incised on a director, thus separating the two borders of the mylo-hyoid muscles. The hyoid now is visible at the base of the wound. This is divided in the centre. The fibres of the mylo-hyoid are now separated for four centimetres—one inch and a quarter. At this stage we open the thyro-hyoid membrane which invests the anterior wall of the pharynx. This is now done in such direction as special cases require.

Operation completed on parts within, how shall we deal with the incision?

It is not necessary to place an osseous suture through the divided hyoid. The membrane will be closed by suture and the divided edges of hyoid brought into contact. Osseous or fibrous union always

follows with unimpaired function resulting. A preliminary tracheotomy is rarely necessary. Have employed this procedure with perfect satisfaction in several cases.

First case—A male of 50, with tumor of epiglottis. Operated Nov. 17th, tumor cleared away, union of parts rapid. Excellent result.

Second case—Patient, 41. Tumor volume of a walnut, very painful and bled readily; situated in left sub-maxillary region, behind angle in the glosso-epiglottic region. Operation May 21, 1897. A large, deeply adherent mass was detached, and all bleeding controlled. Patient nourished by the Esophageal tube for eighteen days. Patient left hospital cured, June 10th.

Third case—Patient 31, pale, wasted and aphonic. Tumor situated in the pharyngo-laryngeal region. A tumor as large as a manderin lay below the root of the tongue. Under the finger, it had the consistence of a mushroom. Operated 21st July. Preliminary tracheotomy, using Trendelenburg's tube. Tumor removed with the finger, by decortication. Patient made a rapid and complete recovery.

Three operations by this means were performed for syphilitic occlusion of the pharynx; all resulting satisfactorily. Six cases of tumor of the base of the tongue were similarly operated. In this whole group there was no mortality.

NOTE.—The operation of Vallas has a very wide range of application, though it is clear that in many cases a preliminary tracheotomy is essential. The great immediate danger in this class of cases is from large hemorrhage and from asphyxia. As Cheyne has pointed out, by placing the head a dependent position, and by proper haemostasis it is seldom necessary to open the trachea, or ligate either carotid. But the region involved is one

exceedingly vascular, seldom invaded except by neoplasm of a malignant character. The surgery of these growths calls for the hand of none, but the accomplished operator, one who has free access to anatomical material, who is prepared for dangers and is a master of sudden hemorrhages. It is well in all doubtful cases before they are turned over to the extreme resort of capital surgery, that specific treatment be thoroughly tested, for the deep pharynx is a favorite site for gummatous ulceration, in the tertiary stages of syphilis, or in those later manifestations of the disease, long after one is supposed to have been effectively cured.

T. H. M.

ON PROTHETIC APPLIANCES IN MUSCULAR OR VASCULAR IN- ERTIA, DEPENDENT ON OCCU- PATION OR AGE.

There is no human being symmetrically developed on both sides of the body; this is perhaps, best accentuated with the irregular slopes on the sides of the cranial walls, so notable in the adjustment of head-gear.

And not only is this true of structure but also in function. Moreover, in early life nature, by a provident, compensatory process so equalizes physiological symmetry that the want of it is not obvious.

As age advances, though, or we are obliged to follow various trying occupations, we become often cognizant of the difference.

Thus, with the motor-man, the car conductor, the compositor or others who are obliged to stand in a fixed attitude, we particularly note the tendency to muscular and vascular inertia, with resulting saphenous varix, and very frequently painful spermatocele.

With the washerwoman, there is a

tendency to sagging forward of the abdomen and resulting "pot-belly." The shop girl, in former times when stools for periodical rest were denied her, suffered from back-ache, from the over-strain on the spinal muscles, and displaced pelvic organs.

Those prone to hernia, are sure to have the condition greatly aggravated, by the over-strain of various occupations, and the atrophic changes attendant on advancing years.

In this large class, the fundamental principle of treatment is prevention. In aggravated cases surgery is invoked as an extreme resort, but its results are not always durable nor satisfactory; hence we should in a large number of cases, turn to prosthetic appliances—to the well fitting bandage for the varicose leg, to the properly adjusted cor-set for the back, a comfortably fitting band for the abdomen and a truss for the herniated. Spermatocele deserves special notice, because, this lesion is so common and offers so fruitful a field for the traveling quack, and because, too, this infirmity treated by an adjusted support, applied with the onset of the early symptoms, will not only insure comfort, prevent aggravation, but affect in many cases, a cure. But with this or any other prosthetic appliances construction and adaptation must be the proper principles, else the "support" so called, is worse than useless. It should be woven without seam. The light, porous and colorless, as dental prosthesis constitutes one of the most invaluable resources of therapeutics, so with the accessory supports which nature calls for, in various situations, if they were more generally and judiciously utilized a vast amount of inconvenience and suffering might be obviated.

T. H. M.


OBSTETRICS AND GYNECOLOGY.
PUERPERAL MASTITIS.

Brouha (*L'Obstetrique*) gives details of a healthy primipara who during at least the last three weeks of her pregnancy carried out most conscientiously the prophylactic treatment advised by Rubeska for the prevention of mammillary abrasions and cracks; twice daily she washed the areola and then nipple with warm water and soap, and followed this with a fomentation of the parts sometimes with alcohol and sometimes with glycerine. The labor supervened at term; the child presented by the breech, but was delivered without interference; but there was some *post-partum* hemorrhage causing considerable anemia. The same night there was some fever and a feeling of tension in the breasts. The infant was only once put to one breast. A mastitis developed, although no lesion could be discovered in the breasts; recovery took place. The author finds it difficult to explain how microbes reached the gland tissue as the infant had not been put to the breast when the first signs of mastitis appeared. He considers that some of the microbes which are normally found in the lactiferous ducts had forced their way through the epithelium and reached the lymphatics; he thinks that the mechanical and chemical means employed to prevent the occurrence of abrasions may have weakened the vitality of the epithelium and so made easy the entrance of the microbes and perhaps also have increased the virulence of these microbes—*British Medical Journal*.

RETROFLEXION OF THE UTERUS.

In discussing the operative and non-operative treatment of this condition, Weidenbaum, in *St. Petersburg Medical Woch* for March 18th, quoted in the *International Medical Magazine* for June, estimates that only a small portion of women with retroflexion of uterus even consult a physician, that the greater number suffer no pain and have no knowledge of the abnormal position. Of 303 women examined by Winter, 36, or 12 per cent. had retroflexion of uterus; of these 11 were from pain, while in the other 25 the suffering was due to some complication, such as tumor, inflammatory changes or other pelvic disease. Hence, he concludes that uncomplicated retroflexion, from adhesions, rarely causes pain, seldom interferes with pregnancy, and may be cured by retroposition and retention in position for a brief period by means of a properly adjusted pessary. Any cervical laceration or defect in the perineum must be corrected before the application of a pessary.

—*Charlotte Medical Journal*.

TREATMENT OF UTERINE FIBROIDS.

M. S. Duplay (*New York Medical Journal*) discussing this subject, says the conservative methods of treatment are three fold. The first is by the daily hypodermic injection for several months of ten drops of the following solution:

Ergotine,	30 grains
Chloral hydrate	15 "
Water,	6 ounces.

This is Simpson's formula, and its use is sometimes followed by an atrophy or disappearance of the tumor. Electricity the author does not recommend, as being uncertain and sometimes dangerous. Treatment by mineral baths may be palliative, but is not curative. The complications which demand operation are hemorrhages, pain, signs of compression, septic symptoms, and torsion of the pedicle of a pedunculated fibroid. Rapidly growing fibroids in young women should also be removed. Myomectomy, when feasible, is a valuable operation, since it preserves the uterus.

POPULAR SUPERSTITIONS RELATIVE TO MENSTRUATION.

Laurent (*Chronique Medicale*) does not entirely disbelieve in certain ideas, popular amongst women in different countries, relating to menstruation. In the sugar refineries in the north of France the female hands are actually kept out of the premises when the sugar is being boiled and also when it is undergoing the process of cooling. The objection to women is that if one or more were menstruating the sugar would be blackened. A similar notion prevails in Cochinchina in respect to the preparation of opium. Another doctrine, also com-

mon to Europe and Asia, is that the hands of a menstruating women break objects of strength and toughness. Especially is this notion entertained in relation to stringed instruments. A performer on the double bass at a theatre in Paris declared that if his wife touched one cord of the instrument during her "period" it snapped at once. Two young women, excellent violinists, informed Laurent that they never played when menstruating, as the snapping of cords interfered greatly with the performance. One of these ladies admitted that she was extremely nervous and irritable at the period. Several much more credible phenomena have been reported, and clearly come under the head of neuroses. Young girls sometimes acquire an idea that their clothes stick to them at the period. Such a person gets nervous during the catamenia, and trying to pull off a tight glove fails, and then believes that it sticks to her. Since she thinks that the same must be the case with her clothes, she loses the power as well as the will to pull them off. Laurent observed this in two sisters. Their body linen did not stick to their skin through perspiration or any visible cause, but it could not be taken off during a "period" till a servant pushed her hand between it and the skin.—*Indian Lancer*.





THE THERAPEUTICS

In charge of H. B. SHEFFIELD, M.D., New York.

REMEDIES FOR PERSPIRING FEET.

(1) Balsam of Peru, 1; formic acid, 5; chloral hydrate, 5; absolute alcohol, 89. To be applied by means of a pad of wool. (2) Alum-nol, 4; aristol, 4; starch, 15. To make a dusting powder. (3) Borax, 75; salicylic acid, 75; boric acid, 2; glycerin, 100; alcohol, 100.—[*Pharm. Post.*]

PRESERVING MEDIUM FOR WOOD.

The following mixture has been patented for preserving wood: Heat nitro-phenol, from 1 to 7 parts, with a metallic basic acetate 30 to 60 parts, creosote 40 to 100 parts, mixed with vegetable, animal or mineral oil, 1,000 parts, and allow to cool.—*Pharm. Cent.*, 40, 499.

INSECTICIDE WASH FOR PLANTS.

Vassiliere, professor of agriculture, at Gironde, recommends the following.—

Black soap.....	2 parts.
Sodium carbonate.....	2 parts.
Petroleum.....	1 part.
Water.....	100 parts.

Mix and spray over the vegetation in the evening. The finer the spray the better the effect, as it is thus sure to touch all parts of the plant.

TONIC CHOCOLATE.

Prepare 1,000 grammes of cacao-mass and 30 grammes of fresh cacao-oil in a warmed, polished, iron mortar into a liquid substance, add to it 800 grammes of finely powdered sugar, and after a good consistency has been reached, 60 grammes of powdered

ferrous lactate and 60 grammes of sugar syrup, finely rubbed together. Further working though is still necessary, and, finally scent with 40 grammes of vanilla sugar. Of this mass weigh out tablets of 125 grammes into moulds.—[*Neueste Erfindungen und Erfahrungen*.

TRIONAL EMULSION.

Since Trional is soluble in fixed almond oil to the extent of 1:20, Poche and Brissemart suggest an oily emulsion as an agreeable means of administering the drug. Such an emulsion may be made of: Trional, 1 Gm.; oil of sweet almond, 20 Gms.; sugar, 8 Gms.; powdered gum acacia, powdered gum tragacanth, of each 20 centigrammes; cherry laurel water, 2 Gms. An enema of the same may be obtained with trional, 0.5 to 1 Gm., oil of sweet almond, 10 to 20 Gms.; yolk of one egg; water, 150 Gms.—[*Journ. de Pharm. d' Anvers*, 56, 16.]

POMADE MADE WITH YOLK OF EGG.

Uonna (Hamburg) recommends this form of pomade, since it dries quickly and forms an adherent covering, and is a veritable base for any of the usual medicaments—ichthylol, sulphur, turpentine, starch, etc., which may be added in the proportion of 10 per cent. To prevent decomposition, 1 per cent balsam of Peru should be added. The pomade is especially serviceable for cases of eczema, acne and scabies:—

Yolk of egg.....2 parts.
Olive Oil.....3 parts.

Rub together as if for a mayonnaise.—[*Medical News.*]

POISONOUS PLANTS.

The botanist of the United States Department of Agriculture, in his report for 1899, states that sixty-seven cases of poisoning by plants were investigated by his department, against forty-one in 1898, and thirty-four in 1897. Of these, forty-one pertained to men and twenty-six to farm stock. The fatalities included more than 4,000 farm animals and twenty-one human beings. The percentage in England is about half as large.—*Journal of Pharmacology.*

TRIUMPH OF MIND OVER MATER.

"This is to certify," writes Mr. Leonidas G. Flickensplitter, of No. 390 Blumblethorpe Ave., Cleveland, O., that on the 17th day of May, 1899 while splitting kindling wood in a shed in the rear of my kitchen, and using my left hand because of a momentary delusion that I had a sore place on my right hand, I brought the hatchet down in such a manner as to convey to my mind the false impression that I had severed my right thumb from the hand.

"The impression was so clear, in

fact, that I fancied I saw the severed member on the floor of the shed.

"Following out the delusion—as I knew it to be—I picked up the imaginary thumb, clapped it immediately upon what appeared to be the bleeding stump, wrapped a bandage about it, and went my way.

"After the lapse of a few days I took off the bandage. The thumb, however, appeared to come off with it. I threw it away and, still holding the thought, refused to recognize the delusion that my thumb was gone.

"I refuse still to accept the delusive evidence of my eyes, which, being merely matter and therefore wholly imaginary and unreal, are not entitled to any credence on the part of the real or internal man, and I assert in the most positive manner that my thumb is not missing. It is still there. Realizing this, I use the hand as formerly and have triumphed completely over the delusion, except that I find myself compelled—so strong is the influence of defective early training—I find myself still compelled, I say, to use my left thumb in opening my penknife.

"But I confidently hope to overcome even this in time.

"There is nothing so deceptive and unreal as matter, and I close with the sincere hope that my case may afford encouragement to all doubters."—*Chicago Tribune*



PUBLISHER'S MISCELLANY.

PROF. ROSWELL PARK, of Buffalo, says in his "Surgery by American Authors," condensed edition (Lea Bros. & Co., New York and Philadelphia, 1899), in Chapter VII., under the heading of "The Surgical Fevers and Septic Infections," the following regarding the treatment of septicaemia:

"Of greatest value also will now be found the silver ointment of Crede (*unguentum Crede*). This permits of absorption of silver through the unbroken skin (as in the case of *ung. hydrarg*), and the dissemination throughout the system of the remarkable antiseptic virtues of the silver itself. Many cases of septic infection promptly yield under the influence of the argentine preparations, which Crede has lately introduced."

LOCAL TREATMENT OF ERYSIPelas.

"Of all the numerous applications which I have ever tried, I have found but one thing which has given the universal satisfaction afforded by the following prescription or something equivalent to it. Resorcin (or naphthalin), 5; ichthylol, 5; mercurial ointment, 40; lanolin, 50. The proportions of these ingredients may be varied, and I often increase the amount of ichthylol, especially when the skin to which it is to be applied is not too tender. The affected parts are anointed with this, and then covered with oiled silk or some impermeable material, simply to prevent its absorption by the dressings; the parts are then enveloped in a light dressing and bandaged. Whenever I have to deal with local evi-

dences of septic infection, I use an ointment essentially the same as this, and have learned to count on it with more reliance than anything that I have ever resorted to. This one better thing hinted at above is Crede's silver ointment, which is to be used as described above, and has been already alluded to in the treatment of septicaemia. As the disease becomes mitigated, the ointment may, if desirable, be reduced with simple lard, and may be discontinued when local signs have disappeared. Absorption of any of these preparations may be hastened by a series of scratches over the affected area with the sharp point of a knife, not deep enough to draw blood, but deep enough to better expose the absorbent vessels of the skin.

"Treatment of threatening phlegmon, or that which is from the outset phlegmonous erysipelas, must be much more radical, and consists primarily of free incision down to the depth of the deepest tissues involved. For instance, in treating dissecting and other septic wounds of the fingers this means incision down to the tendon-sheaths, often down to the bone itself. Unpleasant as this may be, possibly even crippling, it is only by such radical measures, early put into effect, that still worse disaster may be avoided. Finally some aggravated local cases are treated a series of deep incisions, even with the use of a curette, the surface after careful clearing being kept buried under some antiseptic solution (silver lactate 1 to 500) or ointment."—*Park, In Surgery by American Auction.*